



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/721,759

11/26/2003

Jun-whan Kim

Q78711

4171

23373 7590 05/01/2008
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

YUEN, KAN

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

05/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/721,759	Applicant(s) KIM, JUN-WHAN	
	Examiner KAN YUEN	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-22 and 24-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 8-11, 22, 24-27 is/are allowed.
- 6) ☒ Claim(s) 1, 12-15, 17, 28-31 and 33-35 is/are rejected.
- 7) ☒ Claim(s) 2-5, 16, 18-21 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments, see remark, filed 2/5/2008, with respect to the rejection(s) of claim(s) 1, 12, 17, 28, 33 and 35 under 103 rejections have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Abedeen et al. (Pat No.: 5327432).

Claim Rejections - 35 USC § 101

2. Claims 33-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 33-35 are directed to non-statutory subject matter because it is directed to a computer readable recording medium, which is not a "process, machine, manufacture, or composition of matter or any new and useful improvement thereof". Although the specification disclosed that the computer readable medium can be a chip card, however in page 14, line 24 of the specification, the computer readable recording medium is in the form of carrier waves, and therefore it is non-statutory subject matter.

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory

since no requisite functionality is present to satisfy the practical application requirement.

Claim Rejections - 35 USC § 103

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 12, 17, 28, 33, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Abedeen et al. (Pat No.: 5327432).

For claim 1, Sherman disclosed the method of a controlled contention frame transmitter, which when making a polling list is requested, generates a controlled contention frame and transmits the controlled contention frame to stations on a network through a predetermined channel using a broadcast method after a period of time

corresponding to a priority inter-frame space lapses since receipt of the request of making a polling list (**see paragraph 0044, lines 1-7, and see fig. 1, fig. 2a**); As shown in fig. 2a, there is a space between 206 and 208, so we can interpreted that as the priority inter-frame space. Referring in fig. 1, the HC monitoring plurality of MS in the WLAN;

a reservation request frame receiver, which receives a reservation request frame from each of the stations through the predetermined channel as a response to the controlled contention frame during a controlled contention interval designated by the controlled contention frame (**see paragraph 0048, lines 1-10, and paragraph 0050, lines 1-10, see fig. 2a**). In response to the reception of the CC frames, the plurality of mobile station responded by generate and transmit a resource reservations frames back to the receiver of the HC;

a polling list making unit, which when the reservation request frame receiver receives the reservation request frame, allocates a poll frame transmission sequence to the stations (**see paragraph 0008, lines 1-30, and fig. 1**). As shown the Access point 105 is serving plurality of mobile stations 101-103, The HC that coupled with the AP 105 allocates bandwidth among the mobile station contenders 101-103 after the HC received the RR frames from each of the mobile stations 101-103. However, Sherman did not disclose the method of from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and makes a polling list comprising the poll frame transmission sequence.

Abedeen et al. from the same or similar fields of endeavor teaches the method of a polling list making unit, which when the reservation request frame receiver receives the reservation request frame, allocates a poll frame transmission sequence to the stations, from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and makes a polling list comprising the poll frame transmission sequence (**see column 13, lines 15-60**). The central terminal TC comprises the hardware elements constituting a circuit for managing the queue of reservation requests consisting of the reservation messages MR accepted by the reception circuit 10. Queue management circuit 12 may include a circuit 120 for attributing sequence numbers for the various reservation messages MR received by the TC. The storage of the various MR is according to a specific FIFO type procedure.

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Abedeen et al. in the network of Sherman. The motivation for using the method as taught by Abedeen et al. in the network of Sherman being that it provides priority service in transmission.

Regarding claim 12, Sherman disclosed the method of a coordinator polling list making apparatus, which when making a polling list is requested, generates a controlled contention frame and transmits the controlled contention frame to stations on a network through a predetermined channel using a broadcast method after a period of time corresponding to a priority inter-frame space lapses since receipt of the request of making a polling list, and when a reservation request frame from each of the stations is

received as a response to the controlled contention frame through the predetermined channel during a controlled contention interval designated by the controlled contention frame, allocates a poll frame transmission sequence to the stations (**see paragraph 0043, lines 1-8, paragraph 0044, lines 1-8, paragraph 0047, lines 1-12, and paragraph 0048, lines 1-10, and fig. 1**). As shown in fig. 1, the HC is the coordinator polling list making unit, which generates a CC frame to the contending mobile stations 101-103 with predetermined channel 104. After the reception of the CC frame, the mobile stations generate a RR frame back to the HC for reservations; and a station polling list making apparatus, which when the controlled contention frame is received through the predetermined channel from the coordinator polling list making apparatus, contends for use of the predetermined channel according to a user priority value of a data frame during the controlled contention interval designated by the controlled contention frame so as to acquire an exclusive right of using the predetermined channel, and when the exclusive right is acquired, generates a reservation request frame as a response to the controlled contention frame and transmits the reservation request frame to the coordinator polling list making apparatus through the predetermined channel (**see paragraph 0047, lines 1-10, and 0048, lines 1-10**). As shown in the reference, after the receipt of CC frame, the station responded by transmitting a RR frame. The station gained the exclusive right to transmit the RR frame in the CCI based on the priority. However, Sherman did not disclose the method of from which the reservation request frame is received, using a first come first serve method

based on a sequence in which reservation request frames arrive and makes a polling list comprising the poll frame transmission sequence.

Abedeen et al. from which the reservation request frame is received, using a first come first serve method based on a sequence in which reservation request frames arrive and makes a polling list comprising the poll frame transmission sequence (**see column 13, lines 15-60**). The central terminal TC comprises the hardware elements constituting a circuit for managing the queue of reservation requests consisting of the reservation messages MR accepted by the reception circuit 10. Queue management circuit 12 may include a circuit 120 for attributing sequence numbers for the various reservation messages MR received by the TC. The storage of the various MR is according to a specific FIFO type procedure. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Abedeen et al. in the network of Sherman. The motivation for using the method as taught by Abedeen et al. in the network of Sherman being that it provides priority service in transmission.

Claim 17 is rejected similar to claim 1.

Claim 28 is rejected similar to claim 12.

Regarding claim 33, Sherman disclosed the method of computer readable recording medium having embodied therein a computer program (**see paragraph 0047, lines 1-15**). Its obvious to a person of ordinary skill in the art to write an software to execute the functions disclosed in claim 17.

Regarding claim 35, Sherman disclosed the method of computer readable recording medium having embodied therein a computer program (**see paragraph 0047, lines 1-15**). Its obvious to a person of ordinary skill in the art to write an software to execute the functions disclosed in claim 28.

6. Claims 13-15, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman (Pub No.: 2003/0161340), in view of Abedeen et al. (Pat No.: 5327432), as applied to claim 12 above, and further in view of Yew et al. (Pub No.: 2003/0108059).

Regarding claims 13, and 29, Sherman disclosed the method of transmits a poll frame to each of the stations, having transmitted the reservation request frames that are received, through the predetermined channel according to the poll frame transmission sequence comprised in the polling list (**see paragraph 0008, lines 1-30, and fig. 1**). As shown the Access point 105 is serving plurality of mobile stations 101-103, The HC that coupled with the AP 105 transmit a poll frame which consists of bandwidth allocation among the mobile station contenders 101-103 after the HC received the RR frames from each of the mobile stations 101-103 in randomly received sequence; and when the station polling list making apparatus receives the poll frame transmitted through the predetermined channel from the coordinator polling list making apparatus according to the polling frame transmission sequence comprised in the polling list, the station polling list making apparatus transmits the data frame to a destination station among the stations through the predetermined channel during a data transmitting/receiving period

designated by the poll frame (**see paragraph 0058, lines 1-15**). The contenders responded after the received of the RR frame by sending messages in the CCI. Sherman and Haartsen did not disclose the method of the coordinator polling list making apparatus requests to make the polling list when the polling list is not made or when all reservation request frames are not received from the stations having transmitted the reservation request frames during the controlled contention interval. Yew et al. from the same or similar fields of endeavor teaches the method of a polling frame making request unit, which requests to make the polling list when the polling list is not made or when all reservation request frames are not received from the stations having transmitted the reservation request frames during the controlled contention interval (**see paragraph 0092, lines 1-6**). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Yew et al. in the network of Sherman and Abedeen et al. The motivation for using the method as taught by Yew et al. in the network of Sherman and Abedeen et al., being that it gives reliable service to every contending stations.

Regarding to claims 14 and 30 Sherman disclosed the method of a length of the controlled contention interval is proportional to the number of stations on the network (**see paragraph 0040, lines 10-25**). Although the reference did not explicitly mention about length of CCI is proportional to number of stations, however any one of ordinary skill in the art is able to do it.

Regarding to claims 15 and 31 Sherman disclosed the method of the network is a basic service set defined in IEEE 802.11 wireless LAN standards (**see paragraph 0005, line 1-5**).

Allowable Subject Matter

7. Claims 2-5, 16, 18-21, 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. Claims 6, 8-11, 22, 24-27 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAN YUEN whose telephone number is (571)270-1413. The examiner can normally be reached on Monday-Friday 10:00a.m-3:00p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky O. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art
Unit 2616

KY